

## ABSTRACT

In the field of helical bladed rotors and their sealing assemblies, an improved upstream seal for mixer rotors is provided. It includes a bushing-like visco sleeve subassembly, a sleeve shaped metallic liner positioned abutting the visco sleeve; a sleeve-like, visco seal having first and second peripheries, a packing seal retainer, all configured to provide an annular-shaped inner chamber in which a , oil seal packing component and a fluid conduit located in the packing seal retainer component which provides a pneumatic air supply to the chamber containing the packing component, which serves to minimize hardening of the packing assembly by minimizing feed particulate material leaking into the upstream visco seal means.

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